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Galtonia candicans, which is reproduced on the front page of the cover, is a
flowering plant named in honour of Sir Francis Galton in 1880 by
Professor J. Decaisne of the Paris Museum of Natural History

PERIODICALS

THE AMERICAN JOURNAL OF HUMAN GENETICS

March, 1964, Vol. 16, No. 1.

It is noted that there is a change in the Staff editing this journal: H. Eldon Sutton replaces C. Nash Herndon as Editor, and a new appointment is that of Lee Claypool Cooper as Editorial Assistant.

Spontaneous Abortion Risks in Man: Data from Reproductive Histories Collected in a Medical Genetics Unit by DOROTHY WARBURTON and F. CLARKE FRASER.

About 15 per cent of all pregnancies end in abortion. After the first abortion, for which there is a risk of about 12 per cent, the risk of similar termination for subsequent pregnancies rises to 25-30 per cent. The risk of aborting for the first time increases with maternal age (or paternal age or birth order) but there is no such increased risk for second and subsequent abortions. The only associations between a woman's abortion risk and the presence of defects in her full-term children were (1) a higher risk for mothers of anencephalic babies and (2) a lower risk for mothers of babies with cleft lip or palate.

These are some of the facts emerging from a study of family histories in a department of Medical Genetics, but each family was selected because there had been at least one living child, and the exclusion of women who had had only abortions may have influenced the results to an unknown degree.

Sex Ratio Shifts among Progeny from Patients Having Received Therapeutic \times — Radiation by P. J. L. SCHOLTE and F. H. SOBELS.

The theory tested is that lethal mutations induced by irradiation of the gonads may result in a subsequent decrease in the proportion of male progeny if the mother is irradiated (due to sex-linked recessive lethals), or a relative increase if the father is the exposed parent (due then to X-borne dominant lethals). For irradiated women, the authors find overall consistency of their data with those of Neel and Schull and Lejeune, Turpin and Rethore in that there is a shift in the sex ratio in the direction expected—significant when the Dutch and French figures are combined. They also find the expected increase in the sex ratio for children of irradiated men but cannot assess its significance since the control figure, that is the ratio amongst children born to these men *before* irradiation, is abnormally low.

They urge caution in interpreting such findings because of the unknown extent to which the sex ratio may be affected by aberrant distribution of the

sex chromosomes, for instance from loss or nondisjunction. They point out that an increase in frequency of XXY karyotypes among progeny of irradiated parents could be detected, and are themselves investigating the frequency of XO karyotypes among children of irradiated women.

Generalized Unbalanced Mosaicism Attributable to Dispermy and Probable Fertilization of a Polar Body by W. W. ZUELZER *et al.*

This most interesting case came to light accidentally when a prospective blood donor was found to be group A on preliminary typing, but showed no anti-B agglutinin in his serum. Further investigation revealed a minor population of group B cells within the main group A population. The two populations were separated by differential haemolysis with the respective antisera and tested for other red cell systems—blood groups, glucose-6-phosphate dehydrogenase content, etc. Examination of the *propositus*, a phenotypic male of Negro-American-Caucasian ancestry, showed obvious mosaicism of the skin; testicular biopsy was normal but there was a slight degree of gynaecomastia and the urinary oestrogens and F.S.H. were raised; and tissue culture showed both XY and XX cells, the former predominating. Apparently there were two genetically different products of fertilization in this individual, since there was evidence in the tissues showing mosaicism that two different sperms and two sets of maternal chromosomes were involved. The interpretation is that both the egg and first polar body were fertilized, then lack of cytoplasm in the polar body caused a lag in early growth resulting in markedly unequal contributions from the two genetic systems to the adult "finished product". The ratio of major to minor contributions in each mosaical tissue was about 10 : 1.

Studies on the Xavante Indians of the Brazilian Mato Grosso by J. V. NEEL *et al.*

This detailed account of a pilot study of the inhabitants of a Xavante Indian village includes anthropological, demographic, genetic and medical data. The group is a small one with a high coefficient of inbreeding, the determined value of 0.0094 probably being a "gross underestimate". Polygamy is common and sterility rare. The population appears to be at replacement level with a moderately high birth rate but also a moderate death rate in childhood. Morphological details are given for ninety-one people and blood samples were analyzed in seventy-nine cases, the blood group frequencies being generally similar to those of other Indian groups of South America.

THE EUGENICS REVIEW

Considering the language problem, amazingly detailed family groups were traced and there was no instance in which inherited characters in a child were at variance with those of the alleged parents. Of the serological studies, an interesting finding was the high proportion of people with antibodies to measles, pertussis and—most noteworthy—polio-myelitis, although there was almost no evidence for paralytic disease in the population.

One deficiency which the authors recognize is the lack of data on psychological and mental attributes of the Xavante, and the relationship of intelligence to reproduction.

The report is valuable for placing on record as many measurable characteristics as possible in a relatively undisturbed primitive society and for contributing to the methodology of collecting and analyzing data relating to the population dynamics of such groups.

Genetical Studies on Human Red Cell Acid Phosphatase by D. A. HOPKINSON *et al.*

Five phenotype differences in red cell acid phosphatase are attributed to three allelic autosomal genes. In terms of enzyme activity the three alleles have distinct quantitative effects which are additive in a simple way. It will be interesting to see whether the sixth, as yet unidentified phenotype, with a probable incidence of 1 in 600 individuals, has an activity of about 240 units as the authors predict.

HELEN BLYTH

ANNALS OF HUMAN GENETICS

March, 1964, Vol. 27, Part 3.

Inbreeding Effect on Mortality and Morbidity in South Brazilian Populations by F. A. MARCALLO, N. FREIRE-MAIA, J. B. C. AZEVEDO and I. A. SIMOES.

Mortality and the frequency of congenital abnormalities are higher among the offspring of consanguineous marriages in Brazil than among control cases.

The Inheritance of Congenital Tritanopia with the Report of an Extensive Pedigree by G. H. HENRY, B. L. COLE and J. NATHAN.

The literature on the genetics of tritanopia is reviewed and a new pedigree is described.

Taste Response and Poliomyelitis by N. BRAND.

The percentage of non-tasters of PTC was found to be about twice as high among polio patients than among healthy subjects; it is suggested that non-tasters are more susceptible to polio virus.

Comparisons of Regression Constants fitted by Maximum Likelihood to Four Common Transformations of Binomial Data by A. F. NAYLOR.

Analyses of binomial data in which four different

transformations were used led to almost identical conclusions.

An Investigation into the Fertility Rates of Mentally Ill Patients by KATE MACSORLEY.

Mentally ill patients are more often unmarried and have a lower mean number of offspring per marriage and a higher percentage of childless marriages than normal.

Distances which involve Satellited Chromosomes in Metaphase Preparations by MAXINE MERRINGTON and L. S. PENROSE.

The groups of large and small acrocentric chromosomes tend to lie closer to one another than expected on a random hypothesis in metaphase; this is not true of the non-satellited chromosomes 1, 2 and 3.

Birth Weight and some other Factors in Relation to Infant Survival. A Study on an Indian sample by K. JAYANT.

Data are presented on the effects of birth weight, parity, maternal age and sex on infant mortality in India.

Xg and g-6-pd in Israeli Families: an addendum by RUTH SANGER and A. ADAM.

Additional information is given about glucose-6-phosphate dehydrogenase deficiency and the Xg blood groups in three families.

Genetics of the *a-b* Ridge Count on the Human Palm by JOSE PONS.

Family data on the *a-b* ridge count showed a sib-sib correlation of 0.49 and a parent-child correlation of 0.50; rather surprisingly the father-child correlation was 0.68 and the mother-child correlation 0.31. There was no evidence of assortative mating.

Finger-print Patterns in Mongolism by SARAH B. HOLT.

Finger-print patterns of mongols are compared with those of normal controls.

Genetic Studies of the Syndrome of Congenital Deafness and Simple Goitre by A. K. THOULD and E. F. SCOWEN.

Twenty-six pedigrees containing examples of the above syndrome are presented. They are consistent with a simple recessive mode of inheritance. No evidence of linkage with other genes was obtained.

The London Conference on "The Normal Human Karyotype," 28-30 August, 1963.

The conclusions of this conference are reported.

M. G. BULMER

PERIODICALS

EUGENICS QUARTERLY

December, 1963, Vol. 10, No. 4

Genetics of Race Equality by THEODOSIUS DOBZHANSKY.

The difficulties of defining "race" are discussed (informed opinion varies from three to two hundred) together with the "biologically unwarrantable and ethically iniquitous" manner in which individuals are treated according to the stereotype of the particular group. The wide diffusion of blood groups receives attention and also the wide variations of I.Q.s within each group. The enormous effects of environment are emphasized and "Man's paramount adaptive trait is his educability."

The Changing Demographic Spectrum and its Implications for Health by MORTIMER SPIEGELMAN.

The author of this paper, which was presented to a Health Education Conference at the New York Academy of Medicine, is a member of The Metropolitan Life Insurance Company. The paper covers a wide scope, is well-informed and is followed by an ample bibliography.

Estimation of the Direction and Intensity of Natural Selection in Relation to Human Intelligence by Means of the Intrinsic Rate of Natural Increase by CARL JAY BAJEMA.

The reasons why in the past some investigators have "erred in their estimates" of the direction and intensity of natural selection in relation to intelligence are pointed out and the variables which must be taken into account are described. Then follows a technical paper in which these considerations are kept in mind.

Biology, Politics and Race by ARNOLD R. KAPLAN.

An examination of the arguments surrounding Integration and Segregation. Attention is drawn to the manner in which "genetic and eugenic allegations and jargon" necessarily involve those who are "affiliated with these disciplines", and concludes with a warning against "skilfully employed fables".

Book Reviews:

Differential Fertility in Central India by Edwin D. Driver. Princeton University Press. 1963. A report on a survey conducted by Professor Driver in 1958 in the Nagpur District.

Monozygotic Twins Brought Up Apart and Brought Up Together by James Shields. Oxford University Press. London, 1962. Contact was made with forty-four pairs—one of the largest series to be examined—through an appeal on a British television programme. Part I deals with the difficulties encountered in this type of research and Part II with the separate case histories.

Medical Genetics by Widukind Lenz. University of Chicago Press. 1963. A book for students, with a glossary of medical terms, translated from the German. No knowledge of genetics is presupposed.

Human Intersex by David J. B. Ashley. Williams & Wilkins Co., Baltimore. 1962. Described as a comprehensive and well-organized synthesis of present knowledge of human intersexuality and related conditions.

C. W. USHER

From the Press Cuttings

“LORDS CONCERN AT WORLD BIRTHRATE

From Our Parliamentary Correspondent.

IT IS TWO years since the House of Lords expressed their deep concern at the global birth-rate, and in that time the population of the world has gone up by 100 million. Does nobody listen to their lordships?

Apparently not, but that has never deterred them in the past, and probably never will. Today they returned to the subject of the population explosion and attacked it with renewed vigour. It was a debate of dire prophecies and forlorn hopes. Perhaps this time the world will pay attention.

Lord McCorquodale of Newton raised the topic, calling it the most pressing problem of our time. If his estimate of a world population quadrupled by the year 2040 is accurate, then that would seem to be an understatement. Failing action, Lord McCorquodale foresaw a world submerged by its own fertility, or driven in despair to indiscriminate abortion. His own solution lay with the United Nations, using its agencies to spread contraceptive knowledge throughout the underdeveloped countries, and conducting research into family planning methods to meet religious and cultural objections.

A splendid idea, but it was quickly squashed by Lord Dundee. The trouble with the United Nations, he told the House, was that it was dominated by Roman Catholic, communist, and African states, none of whom was in favour of birth control. Britain would do what she could to change the climate of opinion, but he was clearly pessimistic of her chances. In the meantime, technical assistance on family planning would be given to any country that asked for it.

No one could keep Lady Summerskill out of a debate like this; no one would dare to try. Dogmatic and forceful, she treated the House today like a class of first-year medical students.

Malthus, Lady Summerskill proclaimed, was an economic peasant. Publicizers of unproved contraceptives were preying on ignorant women. The pill and the plastic coil could well prove harmful, and to argue that the birth rate would decline if the United Nations distributed contraceptives was to over-simplify the whole issue.

Her own view was that family planning could only follow a higher standard of living; it could

never precede it. Economic aid first and contraception second was Lady Summerskill's message. Grim-faced, she hammered it home.

But Lady Summerskill was in a minority. Most speakers looked at the sombre roundabout of increasing aid in constant pursuit of rising populations and thought that the brake must be applied to the latter if the former was ever to catch up. Lady Gaitskell put it as well as any. "The population problem is volcanic and grows daily," she said. "It does not wait for the deliberations of politicians and prelates." Unequivocally, she thought that £1 million spent on contraceptive research could do more good than all the economic aid put together.

The religious issue was never far below the surface. Protestant peers were tactful to a man, their criticisms implied but rarely voiced; tolerance and respect for Roman Catholic views were dominant. It took Lord Longford, a Roman Catholic father of eight, to bring the subject into the open, and he put the orthodox view of his church with quiet insistence and clear sincerity. He did not rule out future change, but neither did he think it likely.

It was a perplexing matter for their lordships. Amid so much evidence of fecundity they could be excused a feeling of impotence. As Lord Dundee pointed out in a phrase that seemed to sum up the whole debate: "We cannot stop people breeding." The House of Lords has never heard a truer word."

—*The Times*, July 2nd, 1964.

“TROPICAL TOWNS IN DANGER OF DISASTROUS SICKNESS

BY THE END of the century only one-tenth of the world's population—by then expected to have doubled and to exceed 6,000 million—will be working in agriculture, so that most of the 3,000 million extra human beings will be town dwellers. With population pressure in the cities already causing alarm, experts convened by the World Health Organization have been examining environmental health aspects of metropolitan planning and have indicated the chief dangers.

From 1900 to 1950, the world's population increased by about 50 per cent, but the increase in towns of over 5,000 inhabitants was 230 per cent, the experts pointed out. Today the pace has

quicken. Tananarive has been increasing by 5,000 inhabitants a year, Calcutta by 300,000, and the New York state by 200,000.

With city population density in tropical and sub-tropical areas rising rapidly, lack of sanitation, crowding, low-earning capacity, and poor nutrition are creating a far greater possibility of disaster than the industrial revolution in the temperate zone a century ago. Already the disease pattern is changing.

One of these threats comes from the mosquito *Culex fatigans* which transmits filariasis, and which flourishes in the mushrooming cities of warm countries. . . . Air pollution is prominent among other dangers to health in cities, especially in certain weather."

—*The Times*, July 21st, 1964.

WORLD POPULATION

"THE GREATEST PROBLEM facing the world is the rapidly increasing pressure of population, according to Professor L. Dudley Stamp, President of the Royal Geographical Society.

He told the Twentieth International Geographical Congress, that world population was growing at the "fantastic" rate of over 2 per cent or 65 million people a year. (The World Health Organisation expects population to double to 6,000 million before the end of the century.)

This population growth was taking place on an area of land that was fixed and, broadly speaking, inextensible, he declared.

Limitation of space hit various countries differently. The world average was 12 acres per person, but including ice, snow, deserts and mountains accounting for about 70 per cent. The U.S. still enjoyed about 12 acres, compared with India's two acres and Japan's and Britain's 1.1 acres. However, many of the developing countries, Africa for instance, were relatively rich in total land resources.

But if total space was the first of the limitations imposed by the geographical environment, the character of the land came a close second. In countries with vast deserts, or extensive mountains, usable land would be tiny. Egypt had 0.4 acre per head and Japan only 0.2.

England with only 0.6 acre of usable land per head was faced with a "real shortage of productive land" and had problems unknown to the U.S. with its six acres per head."

—*Financial Times*, July 22nd, 1964.

CHINA

"ONE QUARTER OF humanity was counted last month under strict conditions and in remarkable secrecy. Reports from visitors and immigrants now confirm that China undertook her decennial national census on June 30th—exactly one year late.

The previous census was in June 1953 . . .

Since then official statements have admitted a population growth rate of 2 per cent annually and the Premier, Chou En-lai, said in Conakry earlier this year that the rate had now "gone up again to 2.5 per cent." At a conservative estimate, therefore China's present population is a little short of 750 million.

The first definite news of census came last month when travellers reported having seen posters in Canton announcing a census on June 30. The census was not reported in the Chinese press and officials in Peking apparently still refuse to confirm that a census has taken place.

Over the past two years Chinese officials and the press have shown increasingly serious concern about the population growth. They no longer state, as Chen Po-ta, a leading Peking editor, wrote only eight years ago: "China can find room for another 600 million people at least." . . .

Authorities are bringing pressure on young people to delay marriage, and sterilization and abortion are on the increase. . . .

But Chou has said that China could not expect to reduce her population growth rate to Japan's before 1970 because of the strong peasant resistance to the idea of family planning. Now couples bearing a third or fourth child do not receive extra rations and this provides a strong new deterrent to the raising of big families.

At last the Chinese leaders seem convinced that they must abate the population explosion if they are to get off the mark economically."

—*The Guardian*, July 29th, 1964.

U.S.A.

MORE WOMEN MARRY at the age of eighteen in the United States to-day than at any other age—and the average age of marriage is dropping quickly. Reporting this, Professor LaMont Cole, of Cornell University, calculates that the American population would grow by two million a year if all women began having children at eighteen and had an average of four children, rather than starting a family at thirty.

FROM THE PRESS CUTTINGS

Professor Cole, an authority on zoology and animal ecology, holds that early marriage is a more important factor in population growth than large families. "... Merely decreasing the average number of children per family is much less important than postponing the age of marriage."

Giving a warning that the United States is beginning to follow the "Asian pattern" of early marriage, the professor says the trend would accelerate the population explosion in years to come. It could lead to a growth of population far in excess of the present rate of 1.7 per cent per annum.

—*The Times*, August 11th, 1964.

PERPLEXING CHANGES IN America's population statistics have caused the United States Census Bureau to revise its forecasts for the next six years. The pattern shows that birth rates are declining, not only for the whole population but for women in the "prime child bearing years".

A recent big drop in the nation's death rate, due mainly to "Miracle" drugs, is levelling off.

Mortality rates are even increasing in several Southern States.

—*Daily Telegraph*, July 11th, 1964.

NEW ZEALAND

"BETWEEN APRIL 1963, and April 1964, the population of New Zealand increased by 57,368 to 2,590,787.

The percentage increase was 2.3 per cent, the same as in the preceding year and higher than the average annual increase of 2.1 per cent between the 1956 and 1961 censuses."

Glasgow Herald, August 6th, 1964.

INDIA

"OFFICIAL FAMILY PLANNERS, fearful of an Indian population explosion in ten years' time, are making a bargain offer to the country's industrial workers.

It is: 'Undergo a sterilization operation and your weekly pay bonus will be raised to 35s.' Thrown in with the bargain is three days' paid leave after the operation.

The planners, at a high-power conference to-day, recommended the Government to aim at 2,500,000 sterilizations a year. Also, they said, abortion must be made legal."

—*Daily Express*, July 20th, 1964.

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